

1. A spark plug comprising:

5 a center electrode retained in said metal shell to be insulated
from said metal shell; and

a ground electrode opposed to said center electrode to define a spark gap between said ground electrode and said center electrode, said ground electrode being joined to said metal shell by one of laser welding and arc welding.

2. A spark plug as set forth in claim 1, wherein the whole of said ground electrode is made of an Iridium alloy and welded at an end thereof directly to said metal shell.

3. A spark plug as set forth in claim 1, wherein a depth of a weld between said ground electrode and said metal shell lies within a range of 0.3mm to 1.5mm.

20 4. A spark plug as set forth in claim 1, wherein said metal shell is made of an Fe-base alloy containing one of 0.15% by weight or less of S, 0.35% by weight or less of Si, 0.25% by weight or less of C, 1.5% by weight or less of Mn, and 0.1% by weight or less of P.

25 5. A spark plug as set forth in claim 1, wherein said metal shell
is made of an Fe-base alloy containing 0.15% by weight or less of S,

0.35% by weight or less of Si, 0.25% by weight or less of C, 1.5% by weight or less of Mn, and 0.1% by weight or less of P.

6. A spark plug as set forth in claim 1, wherein said ground
5 electrode is made of an alloy containing a main component of 50Wt% or more of Pt and an additive of at least one of Rh, Ir, Os, Ni, W, Pd, and Ru.

7. A spark plug as set forth in claim 1, wherein said ground
10 electrode is made of an alloy containing a main component of 50Wt% or more of Ir and an additive of at least one of Rh, Pt, Os, Ni, W, Pd, and Ru.

8. A spark plug comprising:
15 a metal shell;
a center electrode retained in said metal shell to be insulated from said metal shell; and
a ground electrode opposed to said center electrode to define a spark gap between said ground electrode and said center electrode,
20 said ground electrode being all made of an Iridium alloy and joined directly to said metal shell.)

9. A spark plug as set forth in claim 8, wherein said ground electrode is joined to said metal shell by laser welding.

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10. A spark plug as set forth in claim 9, wherein a depth of a weld

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between said ground electrode and said metal shell lies within a range of 0.3mm to 1.5mm.

11. A spark plug as set forth in claim 8, wherein said metal shell
5 is made of an Fe-base alloy containing one of 0.15% by weight or less of S, 0.35% by weight or less of Si, 0.25% by weight or less of C, 1.5% by weight or less of Mn, and 0.1% by weight or less of P.

12. A spark plug as set forth in claim 8, wherein said metal shell
10 is made of an Fe-base alloy containing 0.15% by weight or less of S, 0.35% by weight or less of Si, 0.25% by weight or less of C, 1.5% by weight or less of Mn, and 0.1% by weight or less of P.

13. A spark plug as set forth in claim 8, wherein said ground
15 electrode is made of an alloy containing a main component of 50Wt% or more of Ir and an additive of at least one of Rh, Pt, Os, Ni, W, Pd, and Ru.

14. A method of producing a spark plug comprising the step of:
20 preparing a metal shell;
installing a center electrode in said metal shell to be insulated from said metal shell;
placing a ground electrode so as to be opposed to said center electrode through a spacer having a thickness substantially equal to
25 a desired spark gap to be defined between said ground electrode and said center electrode; and

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joining said ground electrode to said metal shell by one of
laser welding and arc welding.

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